AMSAT

NEWSLETTER-AMSAT-EA

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FEBRUARY

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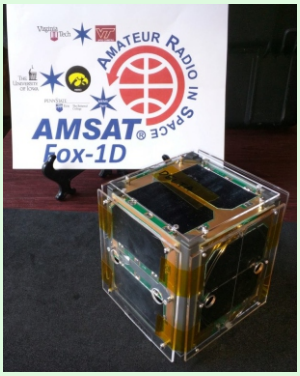
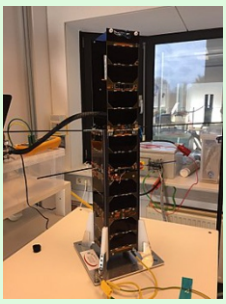
FOX1D (Ao92)

Fox-1D, a 1U CubeSat, it´s the third out of five AMSAT´s Fox-1 cubesats to reach its orbit. Previous sats successfully put in orbit were AO-85 (Fox-1A) and AO-91(RadFxSat/Fox- 1B) .
Fox-1D has its transponder FM-1 U/V FM, with uplink on 435.350 MHz (67.0 Hz CTCSS) and downlink on 145.880 MHz. Fox-1D also carries onboard several university experiments including a Pennsylvania State-Erie MEMS gyro experiment, a Virginia Tech Camera, and the University of Iowa's HERCI (High Energy Radiation CubeSat Instrument) radiation mapping experiment.
The Fox-1D also carries an AMSAT L- Band downshifter experiment that allows the FM transponder to have an uplink on 1267.350 Mhz (67.0 Hz CTSS).



FOX1D- photo AMSAT

PICSAT


Picsat - photo @IamPicSat

It was launched on january 12. Its main task is to study the transit of the exoplanet Beta Pictoris b in front of its bright star Beta Pictoris and to demostrate a new tech concept to use optical fibres for astronomy in space.
It took 3 years to build this satellite. It was made by scientists and engineers from the Paris Observatory and the CNRS(Centre national de la recherche scientifique) with the collaboration of the PSL University, CNES (French Space Agency), the European Research Council and the MERAC foundation. This satellite also has an amateur radio FM transponder 145/435.

AO73 will enter "permanent sunlight" mode.

Fort he first time, AO73 will enter a period of permanent sunlight.Hopefully from february 6 till march 13, therefore the autonomous switching system will stop working. Since january 21 the periods of eclipse are reducing so this operation plan will be used:

Wednesday evening (GMT) or Thursday morning the full time amateur mode will be activated, with low power telemetry. Sunday Evening (GMT) or Monday morning the full time educational mode will be activated with high power telemetry only.

Have this in mind if you are planning a demostration or dxpedition.

New AMSAT Rover Certificate

Amsat-NA, has a new certificate for rover sat stations. More information here .

In this certificate there is additional score for the publication 24 hours before an activity in social media adding @amsat or #amsat. This way, even if we are not interested in the certificate, if we follow those accounts we may be up to date about any upcoming rover operation or the ones in progress.

ANNOUNCED OPERATIONS

EA9ABV, Diego is sat-active from IM75iv, Ceuta . He uses a Ft817nd hooked to an Arrow.

KG5CCI

UT1FG/MM, Yuri is back again in the ship activating some passes over the atlantic. To follow his situation in the high seas look for the vessel "SeaHorse" in Marinetraffic Link to his position here

VP2MDH, Daniel is available in FM Sats from Montserrat FK86. He uses the Arrow II and a Kenwood TH-D72.

Adam, K0FFY

PAST ACTIVITIES

CU2ZG, from HM58

EA4CYQ, Juan Antonio was active from IM79 and Im69.

EC4TR, Jose Luis, was active from IN70 at the beguining of january.

EB1AO, Jose was active on FM sats from IM77,IM87,IM76, IM86 between january 1-5. He succeed with 83 contacts, 45 grids and 12 DXCC countries in a total of 23 sat passes.

EB1AO with the children of EA7HLB from Mijas IM76

7X2ARA, Abdel (M0NPT) was active, in the first days of january, from JM16ms in Algeria. He confirms via Lotw from this weird DXCC, not often in satellites.

CU2ZG, Pedro was active last xmas from HM58qb, in the Faial Island. Also, during a trip into the UK on 15-17 of january, he was active from IM59 and IO91 in some FM sats.

Abel (M0NPT) with 7X2ARA

AL6D/W4, Gabe was active from EM90/EL99, working 108 different grids.

EA4GQS, Felix activated some FM sats from IN73 , holiday style.

Setup Gabe AL6D/W4 in EL99/EM90

EA5TT working AO91 /P

EA4GQS/P, Felix from IN73wj

EC4TR from IN70

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EA5TT “hand held”

Working “hand held”

On Sunday mornings I often go out with my wife Mari Carmen, EB5AN. We love walking thru long trails.

Some weeks ago and detecting the terrific downlink signals from the AO91 sat and it´s good receiver, I decided to grab my dualband wt with just a whip antenna (longer than its original) , name it a Diamond SRH536. I just wanted to test what I could do with such a simple set up. A good pass, with almost 90º of elevation was approaching.

When our walk was just starting, I read in the whatsapp AMSAT-EA group that Jose, EB1AO was ready to activate a new grid for me while on vacations in EA7.

So I decided to try the contact. We did it with my very simple set up. Signals were not too strong… so when we got back home I begun thinking about homebrewing a better antenna small enough to carry it on.

And so it was that I remembered a design I already had tried in the past for terrestrial contacts with great results.

Antenna detail

I made the antenna with some spare parts I had at home, 1,5mm rigid wire, some stuff to make it consistent and a PL connector.

Each side of the dipole is 43cm and the parallel line is 6 cm. With these measurements the antenna works as a slightly shortened dipole in 145 and 2 x 5/8 in 435 Mhz, which gives in that band a 3dB gain (+-). So, good for portable, SWR in both bands is not higher than 1,5:1

Working gear

As soon as I ended up the antenna I tried to pick up signals from SO-50 from my somewhat “famous” terrace in the building where I live. I heared nothing, so I tried later!.

But the best attempt would be next Sunday, a new AO91 pass, almost vertical over my QTH. My wife Mari Carmen helped giving me azimuth and elevation data while I was trying to make contacts.

We picked up a lot of stations and in much better conditions, I could do 2 contacts with EA4FSF and EA2CRP.

Good achievement for a Sunday at that time.

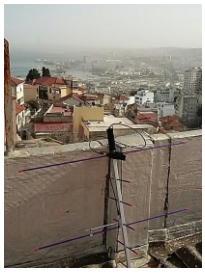
If you want to know more, you can check my videos in my youtube cannel, just search “EA5TT”.

HT antenna comparison

As I I usually say: “ Fun is up there! “

73 of “Marriage Team”, EB5AN & EA5TT

7X2ARA (Abdel M0NPT)



Waiting SO-50

From december 27 to january 7 I was visiting Algeria to get my callsign 7X2TT. My interview with the local police and civil guard was pretty good, so I hope to have my 7X callsign in 3 or 4 weeks.

During those days I activated the FM sats: SO-50 and AO-91 using a Baofeng wt with 5w and an arrow II antenna. This setup worked great, at least with the SO50 where I did several countries from JM16ms at my parent´s home with a clear horizon to N/S and E. Actually I´m setting up the complete station to be able to operate from 160m to 70cm and FM/SSB sats. I hope to hear you all soon with my new callsign.

Cuadricula Activada JM16

CU2ZG (Pedro)

During Xmas 2017, he was active from his family resort in Horta, Faial Island, Acores . Locator: HM58. He did 31 contacts in 4 different sats.

Working HM58

Working IO91

Days after, during a trip to the UK, he first activated IM58 from the Lisbon Airport, where he was warned by the police when he was mounting his Moxon Antenna. Once in the UK he was active from IO91 but this time only in FM sats and in many passes using just a rubber duck just to be unperceived by the police as he was operating not far from the airport and he didn´t want to loose time explaining them what he was doing.

EA4CYQ (Juan Antonio)

On the weekends I often go to my father-in-law country home in IM69 or to my brother-in-law´s in IM79. When I go there I use an IOio with a comet CF-416 duplexor modified with 3 bnc connectors, a THd7 with an external battery case and earphones.

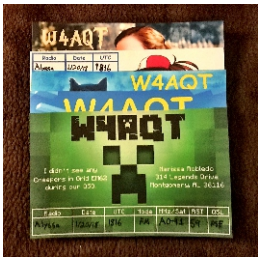
EA4CYQ from IM69

On january 21 two FO29 passes were activated at 13.22z and 15.02z and worked 5 stations, one of them, in the second pass, EA5ISO also in portable. Superb signals and lot of fun activating new grids while in portable.

If you wanna see your activities in this section don´t hesitate to send us your info , including some pic. It´s a good way to collaborate and to know what others use in portable , which rigs, antennas and set ups. You can send your collaboration to eb1ao@amsat-ea.org

W4AQT (Marissa)

One day, Charlie, TI2CDA sent me a tweet saying that his daughter Alyssa had seen my daughter´s QRZ (Marissa, W4AQT). My daughter loves Minecraft and Harry Potter, you can realize that, when seeing her QSL cards.



QSL W4AQB

As they two have similar hobbies and likes, Charlie told me to arrange a contact between our daughters, so we begun looking for suitable sat passes.


Marissa, W4AQB

We decided to try at 18.16z on january 20 2018 thru AO91. Elevation was around 45º at our site. Marissa and I went to the garden with our walkies and the arrow and waited till AO91 was in range. A few minutes later we started hearing signals from the sat and Marissa begun calling W4AQT TI2CDA, just 2 calls and Alyssa was there answering from Costa Rica with his dad Charlie, TI2CDA as the control operator.


Alyssa - TI2CDA´s daughter

Our daughters had a sweet and quick QSO . To confirm it, Marissa sent the cards with her designs to Alyssa. In the world we live in where we fight for a contact and crazyness is around, contacts like this one may be the start of a long friendship and a better understanding of other cultures.

Marissa got her technician license on april 10, 2017 when she was just 11. She is certified member of Skywarn Severe Storn Spotter. Actually she just works local 2m/70cm repeaters and FM sats. She is studing to get her general license. In the future she would like to work in videogames animation. She loves going the the ham club meetings she is a member of: Montgomery Amateur Radio Club and Elmore County Amateur Radio Society where she loves metting people. She is also active trying to get new sat grids.

Alyssa is 8 and she is helped by her dad,TI2CDA, in order to get her license.

Jeff, WE4B

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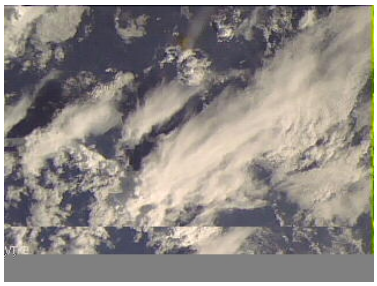
AO92 - FOX 1D



First received pics of earth
photo: AMSAT

Since january 12 this new sat is in space. It´s the new AMSAT-NA FOX1D or AO92.

After some days testing it, on january 26 Amsat announced it had been commissioned and open for amateur use.

On january 18 they tested University of Iowa´s HERCI(High Energy Cubesat Instrument Radiation) experiment intended to provide a mapping of radiation in a low earth orbit. “The experiment consists of a DPU (Digital Proccessing Unit) derived from processors currently use on the Cassini orbiting saturn and on its way to Jupiter on the Juno spacecraft” said Kirchner, KD0L, research ingeneer at the University of Iowa.

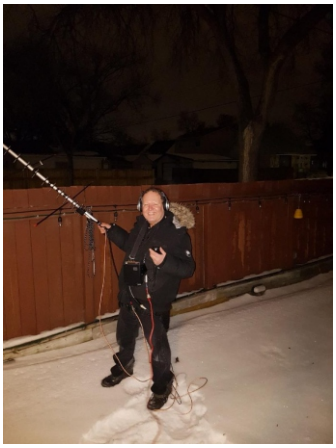
On january 20, after the HERCI experiment, the L-Band Downshifter was tested for the first time. When operative it converts signals received on 1267.350 Mhz and injects them into the 435 mhz receiver in the satellite. First thoughts were that we would need some 100w ERP to use this mode due to the higher track loose on 1267 mhz and the use of a 435 mhz antenna to receive the sat on 1267 mhz.

At 02.19z on january 20 the L/V transponder was activated and the first reports were promising as Paul, N8HM could work the satellite using a Yaesu FT817 as receiver and the Alinco DJ-G7T (1w) for transmitting. The antenna was a Comet 1216E modified with two arrow elements for VHF. So AMSAT announced open testing.

Reports begun to arrive from Europe and Japan. Many reported contacts made with just 10w or less and using normal yagi antennas. EB1AO reported success using 2-3w and a small yagi. IW1DTU informed he used 10w and a 10 element yagi horizontally polarized.

Setup test EB1AO

IU2EFA reported two contacts made using 10 watts to a vertical antenna. Reports from Japan were similar. JK2XXK reported two QSOs with 10 w to a vertically polarized 17 element loop yagi and JA6PL reported a QSO with 10 watts to a horizontally polarized 23 element yagi.



VE4AMU working mode L
photo: AMSAT

The first open pass over North America was around 02:00z on January 21, 2018. Seven stations were heard, N8HM, KE4AL, WB8OTH, WB8RJY, NS3L, N8TLV, and VE4AMU. KE4AL and VE4AMU were using similar stations, KE4AL was using a Kenwood TM-942A (10 watts) and a Comet CYA-1216E yagi modified with holes drilled in the boom to add 2 meter Arrow II elements. VE4AMU was using the same antenna with a Kenwood TM-941A mobile radio.

N8HM was also using that antenna, but with an Alinco DJ-G7T handheld and was able to open the transponder at around 10 degrees of elevation. Most impressively, N8TLV was heard using just a Yaesu FT-104 handheld transceiver and the stock rubber duck for the uplink. He was weak, but readable from around 35-38 degrees of elevation. We look forward to have lot of fun using this satellite in mode L/V or U/V. Pay attention to its beacon to see if it´s active or just follow amsat in twitter @amsat